



Serial Number 09/670,028

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APPENDIX A
(Clean Copy Of Amended Claims)

1. (Twice Amended) A method for processing a material by locally raising a temperature of the material by transferring energy to the material in order to facilitate chemical reactions or processes related to processing of the material, comprising the steps of:
 - providing a cryogenic medium;
 - causing an electrode to emit or attract electrons by applying voltage pulses to the electrode to cause propagation of a succession of thermal spikes or shockwaves in the cryogenic medium; and
 - varying an energy of the thermal spikes or shockwaves by varying the energy of said electrons emitted by or attracted to the electrode,
 - wherein a dimension of said thermal spikes or shockwave is on the order of less than one nanometer to several tens of micrometers, and
 - a total linear dimension of the material affected by energy carried by the thermal spikes or shockwaves, is on the order of less than one nanometer to several tens of micrometers.